

INTEGRATED DIAGNOSTICS IN A PROCESS PLANT HAVING A PROCESS CONTROL SYSTEM AND A SAFETY SYSTEM

ABSTRACT

A process plant includes a safety system that is physically and logically integrated with a process control system such that the safety system and the process control system can use common communication, diagnostic and display hardware and software within the process plant while still providing functional isolation between the safety system controllers and the process control system controllers. This integrated process control and safety system uses a common data communication structure for both the safety system and the process control system so that applications can send data to and receive data from devices in either system in the same manner, e.g., using the same communication hardware and software. However, the common data communication structure is set up to distinguish process control system devices from safety system devices using tags, addresses or other fields within the messages sent to or received from the devices, which enables data associated with the process control system to be distinguishable from data associated with the safety system, thereby enabling a diagnostic application within a user interface to automatically treat this data differently depending on the source (or destination) of the data.